

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: NEO-RAY

Report Number: P332058-935

Luminaire Tested: **S123DIP-S1165D585U935-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332058-935
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-9,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIP-S1165D585U935-4F0-1E-UDD-D1
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1165 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 585 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5909.1 lumens
Efficiency: N/A
Efficacy: 107.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.08')
CIE Type: Semi-Direct

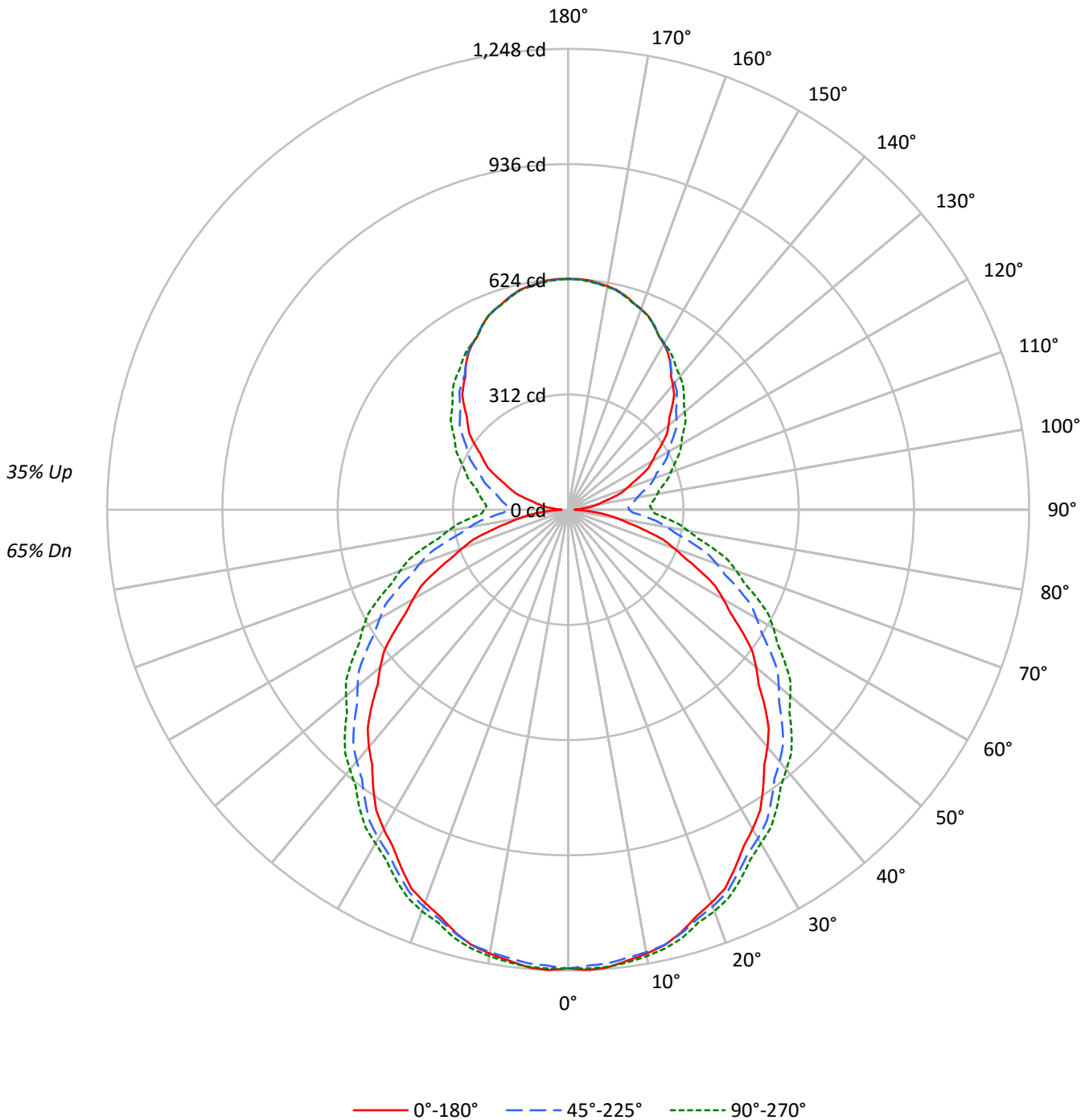
Input Watts (W): 55.1
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20	
RC	80				70				50				30				10	0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																		
0	111	111	111	111	104	104	104	104	92	92	92	80	80	80	70	70	70	65
1	100	95	90	86	93	89	85	81	78	75	72	68	66	64	59	58	56	52
2	90	82	75	69	84	77	71	66	68	63	59	59	56	52	52	49	46	42
3	82	72	64	57	77	67	60	54	59	54	49	52	48	44	45	42	39	35
4	75	63	55	48	70	60	52	46	53	46	41	46	41	37	40	36	33	30
5	69	56	47	41	64	53	45	39	47	41	36	41	36	32	36	32	29	26
6	63	50	42	36	59	48	40	34	42	36	31	37	32	28	33	28	25	22
7	59	45	37	31	55	43	35	30	38	32	27	34	29	25	30	25	22	20
8	54	41	33	28	51	39	32	26	35	29	24	31	26	22	27	23	20	18
9	51	38	30	25	47	36	29	24	32	26	22	29	23	20	25	21	18	16
10	47	35	27	22	44	33	26	21	30	24	20	26	21	18	23	19	16	14

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	13373	13373	13373
5°	13415	13037	13044
10°	13294	12736	12672
15°	13123	12396	12267
20°	12878	12006	11821
25°	12576	11558	11352
30°	12267	11155	10876
35°	11919	10728	10496
40°	11588	10340	10090
45°	11221	9968	9765
50°	10858	9599	9408
55°	10459	9224	9085
60°	10067	8841	8755
65°	9669	8433	8362
70°	9064	7974	7959
75°	8304	7449	7549
80°	7429	6933	7081
85°	6613	6577	6812



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	117.8	2.0
10°-20°	335.7	5.7
20°-30°	502.2	8.5
30°-40°	599.7	10.1
40°-50°	627.4	10.6
50°-60°	588.8	10.0
60°-70°	491.8	8.3
70°-80°	351.8	6.0
80°-90°	211.7	3.6
90°-100°	172.4	2.9
100°-110°	218.6	3.7
110°-120°	271.9	4.6
120°-130°	309.6	5.2
130°-140°	323.1	5.5
140°-150°	304.9	5.2
150°-160°	253.7	4.3
160°-170°	168.9	2.9
170°-180°	59.1	1.0
0°-30°	955.7	16.2
0°-40°	1555.4	26.3
0°-60°	2771.6	46.9
0°-90°	3826.9	64.8
90°-120°	663.0	11.2
90°-150°	1600.6	27.1
90°-180°	2082.0	35.2
0°-180°	5909.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1242	1242	1242	1242	1242	
5°	1244	1241	1233	1243	1242	118
15°	1184	1188	1187	1200	1199	333
25°	1069	1082	1087	1103	1104	492
35°	920	942	960	979	985	575
45°	752	785	819	844	855	580
55°	574	619	667	702	715	514
65°	397	450	509	548	563	392
75°	215	279	346	390	407	230
85°	66	134	206	250	265	70
90°	18	90	165	211	227	14
95°	44	101	170	213	228	44
105°	121	156	217	254	268	129
115°	216	235	281	313	324	213
125°	310	313	349	375	383	276
135°	399	401	415	436	443	307
145°	482	482	483	493	497	301
155°	550	551	551	553	550	253
165°	600	598	598	601	598	169
175°	624	622	622	624	621	59
180°	625	625	625	625	625	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1242.4	1242.4	1242.4	1242.4	1242.4	1242.4	1242.4	1242.4	1242.4	1242.4	1242.4
2.5°	1247.8	1247.2	1246.4	1245.7	1244.9	1243.6	1241.7	1239.8	1237.9	1236.0	1237.9
5°	1243.8	1243.2	1242.6	1242.0	1241.4	1240.2	1238.4	1236.6	1234.8	1233.0	1235.4
7.5°	1231.6	1231.7	1231.8	1232.0	1232.1	1231.3	1229.5	1227.8	1226.1	1224.3	1227.3
10°	1220.8	1221.4	1222.0	1222.6	1223.2	1222.7	1221.2	1219.7	1218.2	1216.7	1219.7
12.5°	1207.8	1208.6	1209.4	1210.3	1211.2	1211.1	1210.0	1209.0	1208.0	1206.9	1209.7
15°	1184.2	1185.2	1186.0	1187.0	1187.8	1188.2	1187.8	1187.6	1187.2	1187.0	1190.0
17.5°	1154.4	1156.2	1158.0	1159.9	1161.7	1162.5	1162.4	1162.3	1162.2	1162.0	1164.8
20°	1132.8	1134.6	1136.4	1138.2	1140.1	1141.3	1141.9	1142.5	1143.1	1143.7	1146.3
22.5°	1110.1	1111.9	1113.7	1115.5	1117.3	1118.6	1119.5	1120.3	1121.1	1122.0	1125.4
25°	1069.2	1072.2	1075.2	1078.2	1081.2	1083.1	1084.1	1084.9	1085.9	1086.8	1090.7
27.5°	1028.0	1031.5	1034.9	1038.4	1041.7	1044.5	1046.4	1048.3	1050.2	1052.1	1055.5
30°	998.8	1002.7	1006.6	1010.6	1014.4	1017.6	1020.0	1022.4	1024.8	1027.3	1030.9
32.5°	966.3	970.7	975.1	979.5	983.9	987.7	990.8	993.9	997.0	1000.1	1004.0
35°	920.3	925.1	930.0	934.8	939.6	943.9	947.9	951.7	955.6	959.6	964.1
37.5°	871.6	877.0	882.4	887.9	893.3	898.4	903.2	908.0	912.8	917.7	922.7
40°	839.1	844.6	850.0	855.3	860.7	866.5	872.5	878.5	884.5	890.5	895.7
42.5°	803.4	810.0	816.7	823.2	829.8	836.3	842.6	848.8	855.1	861.3	866.9
45°	752.5	759.7	766.9	774.1	781.4	788.8	796.3	803.7	811.3	818.8	824.5
47.5°	699.1	707.3	715.5	723.8	731.9	740.3	748.9	757.5	766.1	774.7	781.1
50°	664.5	673.0	681.4	689.7	698.2	707.1	716.4	725.7	735.0	744.3	751.3
52.5°	627.8	636.6	645.5	654.4	663.3	673.0	683.2	693.4	703.8	714.0	721.3
55°	573.9	583.8	593.7	603.6	613.5	623.9	634.7	645.6	656.4	667.3	675.4
57.5°	521.3	531.7	542.0	552.3	562.7	573.9	585.7	597.5	609.3	621.2	629.4
60°	484.5	495.3	506.2	517.0	527.8	539.4	551.7	564.0	576.4	588.8	597.2
62.5°	449.9	461.0	472.0	483.1	494.1	506.2	519.3	532.3	545.4	558.4	566.8
65°	396.6	408.3	420.0	431.7	443.5	456.0	469.2	482.4	495.7	508.9	517.9
67.5°	342.4	354.9	367.3	379.8	392.2	405.2	418.6	432.1	445.6	459.1	468.9
70°	304.5	317.5	330.4	343.3	356.3	370.0	384.4	398.8	413.3	427.7	437.3
72.5°	269.8	282.8	295.8	308.7	321.6	335.5	350.4	365.3	380.3	395.2	405.1
75°	215.2	229.4	243.5	257.6	271.7	286.3	301.4	316.4	331.4	346.5	356.4
77.5°	167.6	181.8	196.0	210.3	224.5	239.3	254.4	269.6	284.7	299.9	310.4
80°	134.0	148.7	163.5	178.2	193.0	208.1	223.8	239.4	255.0	270.7	280.9
82.5°	104.8	119.8	134.7	149.7	164.6	180.1	196.0	211.9	227.7	243.6	253.8
85°	66.3	81.4	96.4	111.4	126.5	142.0	157.9	173.8	189.8	205.7	215.9
87.5°	36.1	51.3	66.5	81.7	96.9	112.3	127.9	143.5	159.2	174.8	185.1
90°	18.1	33.9	49.8	65.6	81.4	97.7	114.4	131.2	148.0	164.7	175.4
92.5°	28.4	42.4	56.5	70.5	84.6	99.5	115.4	131.3	147.2	163.2	173.5
95°	43.8	56.4	68.9	81.4	93.8	107.9	123.5	139.1	154.7	170.3	180.1
97.5°	64.7	75.9	87.0	98.2	109.3	122.3	137.0	151.7	166.4	181.2	190.5
100°	79.0	89.3	99.5	109.8	120.1	132.4	146.8	161.2	175.6	189.9	199.0
102.5°	95.6	104.6	113.7	122.7	131.8	143.4	157.8	172.1	186.4	200.7	209.6
105°	121.3	128.8	136.2	143.6	151.1	161.8	175.6	189.6	203.5	217.4	225.8
107.5°	150.0	156.2	162.5	168.8	175.0	184.5	197.2	209.8	222.5	235.1	243.6
110°	167.7	173.3	179.0	184.6	190.3	199.2	211.5	223.7	235.9	248.2	256.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	187.4	191.9	196.6	201.1	205.7	213.8	225.4	236.9	248.6	260.2	268.3
115°	215.5	219.4	223.3	227.3	231.3	238.5	249.1	259.8	270.4	280.9	288.3
117.5°	244.9	247.4	249.8	252.2	254.7	260.8	270.7	280.6	290.5	300.3	307.5
120°	262.3	264.4	266.6	268.7	270.9	276.6	286.0	295.4	304.8	314.2	321.0
122.5°	281.5	282.8	284.0	285.3	286.5	291.8	300.9	310.1	319.3	328.4	334.8
125°	309.5	309.9	310.2	310.5	310.8	315.2	323.7	332.3	340.8	349.3	355.2
127.5°	336.7	337.0	337.4	337.9	338.2	341.9	348.9	355.9	362.8	369.8	375.1
130°	354.7	355.2	355.9	356.5	357.0	360.2	365.8	371.5	377.2	382.9	388.1
132.5°	371.7	372.6	373.3	374.1	375.0	377.6	382.2	386.8	391.3	396.0	400.9
135°	399.0	399.4	399.8	400.1	400.5	402.3	405.4	408.6	411.8	415.0	420.0
137.5°	424.3	424.6	424.9	425.2	425.5	426.7	428.9	431.0	433.2	435.3	439.6
140°	440.9	441.4	442.0	442.6	443.1	443.8	444.9	445.9	446.9	447.9	452.3
142.5°	457.0	457.3	457.6	457.9	458.2	458.6	458.9	459.3	459.7	460.0	464.0
145°	482.2	482.1	482.0	481.9	481.8	481.9	482.2	482.6	482.9	483.3	485.5
147.5°	502.8	503.2	503.6	503.9	504.4	504.7	505.1	505.3	505.7	505.9	506.7
150°	518.1	518.3	518.6	518.8	519.0	519.2	519.4	519.6	519.9	520.0	520.0
152.5°	530.7	531.0	531.3	531.6	531.9	532.1	532.3	532.4	532.5	532.6	532.8
155°	550.5	550.5	550.5	550.5	550.5	550.6	550.7	550.8	551.0	551.0	551.5
157.5°	567.4	567.3	567.1	567.1	566.9	566.9	567.0	567.1	567.1	567.2	567.7
160°	578.0	577.8	577.6	577.4	577.1	577.0	577.0	577.0	577.0	577.0	577.6
162.5°	587.5	587.1	586.9	586.5	586.3	586.2	586.3	586.3	586.4	586.5	587.0
165°	599.6	599.3	599.0	598.7	598.3	598.1	598.1	598.1	598.1	598.1	598.8
167.5°	609.3	608.9	608.5	608.0	607.6	607.4	607.5	607.6	607.7	607.8	608.5
170°	614.8	614.4	614.0	613.5	613.1	612.9	612.9	612.9	612.9	612.9	613.6
172.5°	619.1	618.7	618.3	617.9	617.4	617.3	617.3	617.3	617.3	617.3	617.9
175°	623.7	623.3	622.8	622.4	622.0	621.7	621.7	621.7	621.7	621.7	622.4
177.5°	625.6	625.3	624.9	624.5	624.1	624.0	624.0	624.0	624.0	624.0	624.5
180°	625.2	625.2	625.2	625.2	625.2	625.2	625.2	625.2	625.2	625.2	625.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1242.4	1242.4	1242.4	1242.4	1242.4	1242.4	1242.4	1242.4
2.5°	1239.8	1241.7	1243.6	1244.5	1244.2	1244.0	1243.7	1243.5
5°	1237.8	1240.2	1242.6	1243.6	1243.4	1243.0	1242.8	1242.4
7.5°	1230.3	1233.3	1236.3	1237.7	1237.3	1236.9	1236.6	1236.2
10°	1222.7	1225.7	1228.7	1229.9	1229.3	1228.7	1228.1	1227.5
12.5°	1212.5	1215.3	1218.1	1219.1	1218.5	1217.9	1217.3	1216.7
15°	1192.9	1195.9	1198.9	1200.3	1200.1	1199.7	1199.5	1199.1
17.5°	1167.4	1170.2	1172.9	1174.0	1173.6	1173.2	1172.8	1172.3
20°	1149.0	1151.8	1154.4	1156.0	1156.2	1156.6	1156.8	1157.2
22.5°	1128.9	1132.3	1135.7	1137.3	1137.1	1137.0	1136.8	1136.6
25°	1094.6	1098.5	1102.4	1104.4	1104.4	1104.4	1104.4	1104.4
27.5°	1058.9	1062.2	1065.6	1067.4	1067.6	1067.9	1068.2	1068.4
30°	1034.5	1038.1	1041.6	1043.4	1043.4	1043.4	1043.4	1043.4
32.5°	1007.9	1011.8	1015.5	1017.9	1018.6	1019.3	1020.0	1020.7
35°	968.6	973.1	977.6	980.5	981.7	982.9	984.1	985.2
37.5°	927.8	933.0	938.1	941.1	942.1	943.1	944.0	944.9
40°	900.8	905.9	911.0	914.1	915.3	916.5	917.7	918.9
42.5°	872.5	878.1	883.7	887.3	889.0	890.7	892.3	894.1
45°	830.3	835.9	841.7	845.8	848.2	850.6	853.0	855.3
47.5°	787.6	794.0	800.5	804.6	806.4	808.3	810.2	812.0
50°	758.2	765.2	772.1	776.5	778.7	780.8	782.9	785.0
52.5°	728.4	735.6	742.7	747.6	750.2	752.8	755.4	757.9
55°	683.5	691.6	699.7	705.0	707.4	709.8	712.2	714.6
57.5°	637.6	645.8	653.9	659.4	662.3	665.1	668.0	670.7
60°	605.5	614.0	622.4	628.3	631.6	634.9	638.2	641.5
62.5°	575.2	583.7	592.1	597.9	600.9	604.0	607.1	610.1
65°	526.9	536.0	545.0	551.0	554.0	557.0	560.0	563.0
67.5°	478.8	488.7	498.5	504.7	507.3	509.8	512.3	514.9
70°	446.9	456.6	466.1	472.5	475.5	478.5	481.5	484.5
72.5°	414.9	424.8	434.6	441.1	444.1	447.1	450.1	453.1
75°	366.4	376.3	386.2	393.0	396.6	400.2	403.8	407.3
77.5°	320.8	331.3	341.8	348.4	351.2	354.0	356.7	359.5
80°	291.1	301.4	311.6	318.2	321.2	324.3	327.3	330.2
82.5°	264.1	274.3	284.5	291.1	294.1	297.1	300.1	303.2
85°	226.2	236.4	246.6	253.2	256.2	259.2	262.3	265.3
87.5°	195.4	205.7	216.0	222.7	225.8	228.9	231.9	234.9
90°	186.1	196.7	207.3	214.3	217.6	220.8	224.0	227.2
92.5°	183.8	194.2	204.5	210.9	213.6	216.2	218.9	221.5
95°	189.9	199.6	209.4	215.8	218.8	221.8	224.8	227.8
97.5°	200.0	209.5	219.0	225.2	228.2	231.1	234.1	237.0
100°	208.0	217.1	226.1	232.3	235.5	238.8	241.9	245.2
102.5°	218.3	227.1	236.0	241.9	244.8	247.8	250.7	253.7
105°	234.3	242.6	251.1	256.8	259.7	262.6	265.5	268.5
107.5°	251.9	260.4	268.8	274.2	276.7	279.3	281.8	284.3
110°	264.7	272.9	281.2	286.5	288.6	290.8	293.0	295.2



TEST NUMBER: P332058-935

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	276.4	284.5	292.6	297.9	300.5	303.2	305.7	308.3
115°	295.6	302.9	310.2	315.0	317.4	319.7	321.9	324.3
117.5°	314.6	321.8	328.9	333.5	335.5	337.6	339.6	341.6
120°	327.8	334.6	341.4	345.8	347.7	349.6	351.5	353.4
122.5°	341.2	347.6	354.0	358.1	359.9	361.7	363.5	365.3
125°	361.0	366.9	372.8	376.6	378.2	379.9	381.6	383.2
127.5°	380.5	385.9	391.2	394.7	396.2	397.7	399.2	400.8
130°	393.5	398.7	404.0	407.2	408.2	409.2	410.3	411.3
132.5°	405.9	410.8	415.7	419.0	420.4	421.8	423.3	424.7
135°	425.0	430.0	434.9	438.1	439.4	440.7	442.0	443.2
137.5°	443.9	448.2	452.5	455.2	456.3	457.4	458.5	459.6
140°	456.7	461.1	465.5	468.0	468.8	469.6	470.3	471.1
142.5°	468.0	471.8	475.8	478.2	479.1	480.0	481.0	481.8
145°	487.8	490.2	492.4	494.0	494.7	495.5	496.3	497.1
147.5°	507.4	508.1	508.9	509.4	509.8	510.2	510.7	511.1
150°	520.0	520.0	520.0	520.0	520.0	520.0	519.9	519.9
152.5°	533.0	533.2	533.4	533.2	532.8	532.4	531.8	531.4
155°	551.9	552.3	552.8	552.6	551.8	551.0	550.4	549.6
157.5°	568.2	568.6	569.0	568.9	568.3	567.7	567.1	566.5
160°	578.2	578.7	579.2	579.3	578.9	578.4	578.0	577.6
162.5°	587.5	588.1	588.7	588.6	587.9	587.2	586.5	585.8
165°	599.5	600.1	600.8	600.7	599.9	599.2	598.5	597.7
167.5°	609.2	609.8	610.5	610.5	609.8	609.2	608.5	607.8
170°	614.4	615.2	616.0	616.0	615.2	614.4	613.6	612.9
172.5°	618.5	619.2	619.9	619.9	619.1	618.4	617.6	616.8
175°	623.0	623.7	624.4	624.3	623.5	622.8	622.0	621.2
177.5°	625.1	625.6	626.1	626.0	625.4	624.8	624.2	623.6
180°	625.2	625.2	625.2	625.2	625.2	625.2	625.2	625.2

(END OF REPORT)